REPORT FOR ALBERT HUBER
ON A MAGNETOMETER SURVEY ON THE
HOGLE IRON DEPOSIT, ELKO COUNTY, NEVADA

By

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On June 30, 1957 the writer made a magnetometer survey for Mr. Albert Huber on the Hogle iron deposit, Elko County, Nevada. The deposit is located low on the southeast slope of Lone Mountain, about five miles west of Dinner Station and twenty-seven miles by road northwest of Elko. The purpose of the work was to outline the iron-bearing zone magnetically and to determine the approximate length, width, and attitude as a guide to possible diamond drilling or other development work. Mr. Huber and Mr. J. S. Kovacs assisted the writer in the field work.

In this brief examination no attempt was made to determine geologic details. The iron ore occurs in a zone of highly altered limestone at or near a contact with intrusive granodiorite or a similar igneous rock. Within parts of the mineralized zone granular magnetite and hematite are intimately intermixed with green garnet and other alteration products in varying ratios, but at least one fairly large lenticular body of nearly pure magnetite crops out within the zone. Exposures in old prospect holes, as well as the magnetic results, indicate that the zone dips steeply northward into the hill and towards the granodiorite. A tunnel several hundred feet long driven from the south shows iron well below the outcrop.

For the magnetic work a zero point was established on the north part of the deposit in the stripped area and a base line was projected on a bearing of N.60° W. Eight magnetometer traverses were run at intervals of 100 feet at right angles to the base line and across the strike of the mineralized zone. Most of the traverses were extended 200 feet on either side of the base line, and magnetometer stations were occupied at intervals of 25 feet over the mineralized zone and 50 feet on the borders. The general plan of the survey is shown on the accompanying magnetic map.

The results of the survey are shown on the magnetic map, which is drawn on a scale of 50 feet to the inch and contoured on an interval of 1,000 gammas. The mineralized zone is marked by a well defined positive anomaly that reaches peak values well above 15,000 gammas near the center of the deposit, or on the 100E line. Northwest of this center the anomaly narrows and decreases to about 11,000 gammas on the 0 line. On the 100W line the anomaly again is wider but the peak value is only a little above 5,000 gammas. Further northwest the anomaly pinches and decreases to a minor peak on the 200W line, and it also curves somewhat to the south. Southeast of the main center the maximum values decrease to less than 7,000 gammas on the 200E line, but a second peak of just over 15,000 gammas occurs on or near the 300E line. Beyond this point the anomaly swings sharply northward and decreases to a minor peak on the 400E line. The south part of this line also shows a second minor peak that probably is associated with minor mineralization in altered limestone.

The general positive anomaly is bordered on the south by a broad shallow magnetic low, as indicated by the hachured contour lines, whereas to the north the values drop less abruptly and show no magnetic low, indicating that the deposit dips steeply northward. The lack of sharp negative changes on the borders indicates that mineralization extends to depth.

The magnetic results just described show that the mineralized zone as a whole is a little over 600 feet long but that the chief concentrations of magnetite are localized in or near two centers, one on or near the 100E line and one on or near the 300E line. In either direction from these centers the zone appears to contain less total magnetite and in general is narrower. In this connection it should be emphasized that the magnetic results show only relative variations and do not give specific determinations of grade nor the exact edges of the body.

On the arbitrary basis of the 5,000-gamma closure the chief body of magnetic material lies between the 100W and 300E lines and may average 50 feet in width. On a conservative factor of 10 cubic feet per ton, this part of the zone would contain a rough total of about 200,000 tons of material to a depth of 100 feet. Part of this material unquestionably is not iron ore of shipping grade, and the general magnetic results suggest that only a relatively small tonnage may be of such grade. Drilling or other development work will be necessary if more exact information is desired as to the average grade of the whole body and the amount of direct shipping ore that may be present. Careful tests also would be necessary to determine whether the deposit as a whole can be beneficiated into a marketable product.

In the event that such further information is desired, it probably can best be obtained by drilling inclined diamond drill holes through the deposit at relatively shallow depths, certainly within anticipated mining depths. Since at least the near-surface dip is to the north and the adverse slope of the surface is not great, it is suggested that the first holes be drilled from the north. Such holes presumably would collar in granodiorite. Holes located 80 to 100 feet north of the center of the anomaly at any given point and inclined at angles of 45° to 55° should cut the body well within economic mining depths. Hole depths (lengths) probably would range from 125 to 200 feet. Since the magnetic curves indicate a sharp break on the south, it should be safe to stop any given hole as soon as it is certain that limestone or marble has been encountered in the anticipated footwall zone.

Reno, Nevada
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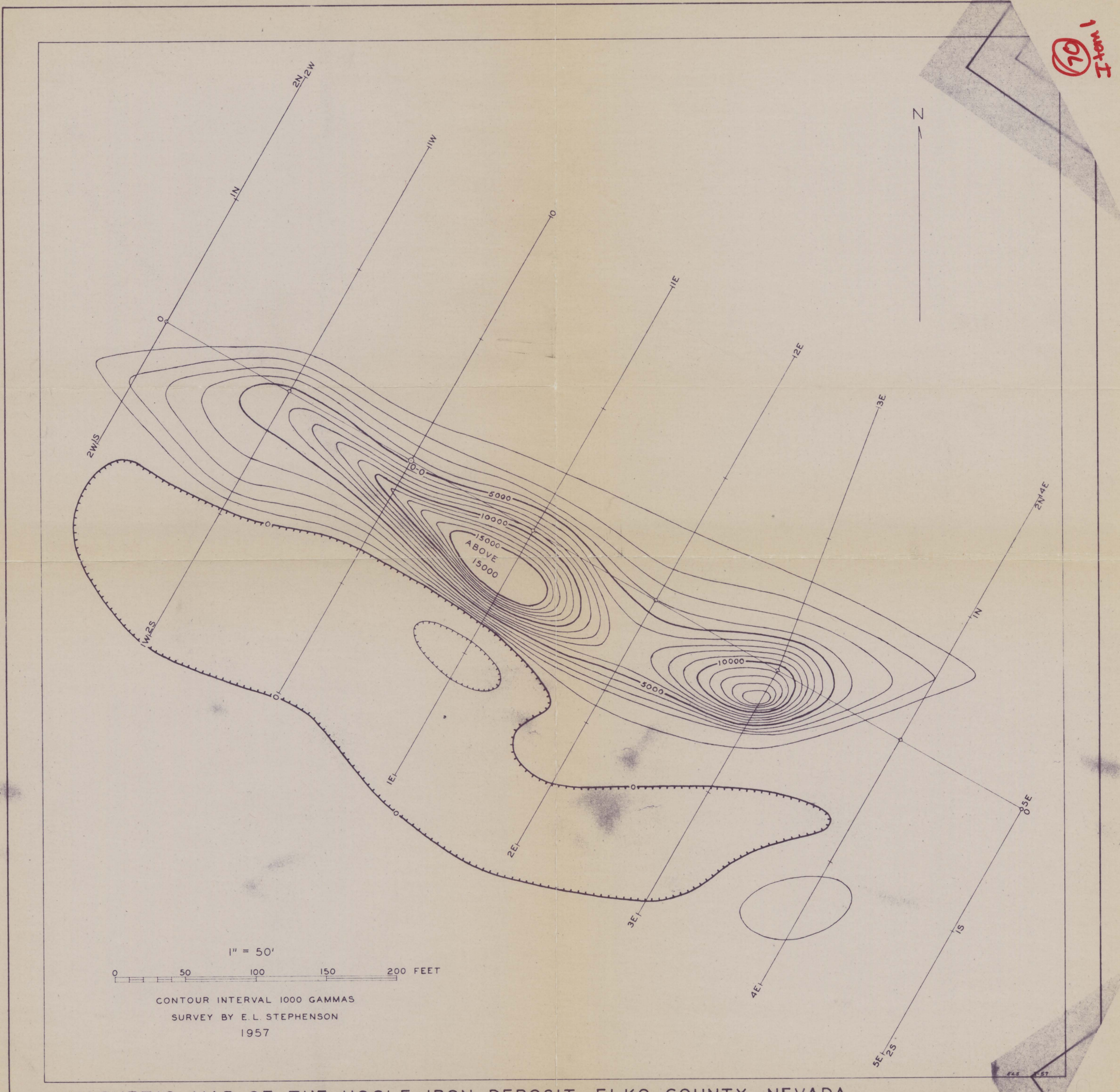

MAGNETIC MAP OF THE HOGLE IRON DEPOSIT, ELKO COUNTY, NEVADA

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